U.S. Department of the Interior
Bureau of Land Management
Little Snake Field Office
455 Emerson Street
Craig, CO 81625-1129

ENVIRONMENTAL ASSESSMENT

EA-NUMBER: **CO-100-2004-061 EA**

PERMIT/LEASE NUMBER: COC 67514

PROJECT NAME: Twentymile Competitive Coal Lease

LEGAL DESCRIPTION: T. 5 N., R. 86 W., Sec 5, lot 4, SWNE, SNW, NWSE; 200.36 ac.

APPLICANT: Twentymile Coal Co. (Peabody Coal Co.)

PLAN CONFORMANCE REVIEW: The proposed action is subject to the following plan:

Name of Plans: Little Snake Resource Management Plan and Record of Decision

Date(s) Approved: April 26, 1989

Results: The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with this plan.

NEED FOR PROPOSED ACTION: Peabody's Twentymile Coal mine needs to secure a section of Federal coal for mining during the end of their operations.

PUBLIC SCOPING PROCESS: None.

BACKGROUND: Twentymile Coal Mine is an active, operating, underground longwall coal mining operation. As the mining proceeds northward they will reach a point where at the last proposed mining area they'll encounter unleased federally owned coal. The surface is owned by the mining company.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES: Twentymile proposes to acquire the coal lease rights to a small section of federal coal.

NO ACTION ALTERNATIVE: A no action alternative will result in federal coal being left behind, in place, and produce a loss of revenue as a result.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

CRITICAL RESOURCES

AIR QUALITY

Affected Environment: Emissions from ongoing underground mining and surface operations are currently released. Coal dusts are generated and affect the local air quality. The Foidel Creek Mine Permit includes an Air Pollution Control Plan which describes dust control measures. An Emission Permit has been issued by the Colorado Department of Public Health and Environment, Air Pollution Control Division.

Environmental Consequences: The addition of the 200 acre tract of coal to the existing mining operation will not cause any additional air quality impairment. Pollutant emissions would be extended an additional length of time necessary to mine the 200 acre tract.

Mitigative Measures: None

Name of specialist and date: Ole Olsen 1/28/05

AREA OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable

Name of specialist and date: Jim McBrayer – 11/2/04

CULTURAL RESOURCES:

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado,* Bureau of Land Management Colorado, Cultural Resources Series, Number 20, and *An Isolated Empire, A History of Northwestern Colorado,* Bureau of Land Management Colorado, Cultural Resource Series, Number 2.

Environmental Consequences: The proposed projects, Twentymile Coal Company proposed 2005/2006 projects, have undergone a Class III cultural resource survey:

Metcalf, Sally J.
2004 Twentymile Coal Company, Class III Cultural Resource Inventory of Proposed 2005 Seismic Lines, 2005/2006 Drill Locations and BLM Block, Routt County, Colorado. BLM 54.6.05. Metcalf Archaeological Consultants, Inc., Eagle, Colorado.

The survey identified two cultural resources potentially (need data) eligible to the National Register of Historic Places prehistoric cultural resources. These two resources will be avoided by the proposed projects. The proposed project may proceed as described in this EA with the following mitigative measures in place.

Mitigative Measures: Project specific stipulations apply to 5RT 1368 and 5RT1369. These two cultural resources will be avoided by the proposed projects. Avoidance recommendation in the report will be followed to protect these two sites. If this cannot be done then the resources will be tested for eligibility and if necessary further mitigation developed.

The following standard stipulations apply for this project:

The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

Name of specialist and date: Henry S. Keesling 17 November 2004

ENVIRONMENTAL JUSTICE

Affected Environment: The proposed action will not adversely impact minority or low-income populations.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Phillis A. Bowers 1/23/05

FLOOD PLAINS

Affected Environment: Stream reach gradients for the ephemeral streams overlying the federal coal estate are generally too high for active floodplain development.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Ole Olsen 1/28/05

INVASIVE, NONNATIVE SPECIES

Affected Environment: Houndstongue, Whitetop, Canada thistle, and other biennial thistles are known to occur in this area. There is the potential for noxious weeds, such as dalmatian toadflax, knapweeds, and others, to exist and spread in these areas.

Environmental Consequences: Since the proposed action is underground, it is not anticipated that the proposed action would increase any invasive species establishment and production. Vehicular traffic associated with coal mining, as well as wind and water can cause invasive species to spread into new areas. Given an opportunity, many of these invasive species have the potential to become the dominant cover species without control and eradication efforts. The utilization of interim reclamation techniques can facilitate control of invasive species and reduce the potential of long term infestation of invasive and noxious weed species. All principles of Integrated Pest Management should be employed to control noxious weeds on public lands.

Mitigative Measures: None

Name of specialist and date: Curtis Bryan 12/02/04

MIGRATORY BIRDS

Affected Environment: The Proposed Action is located below a mountain shrub and sagebrush-grass plant community on private surface. This community type provides both foraging and nesting habitat for a variety of migratory birds. One bird species that's on the USFWS's Bird of Conservation Concern List is the Virginia warbler and likely nests in this area.

Environmental Consequences: The Proposed Action would have little to no potential to result in the taking of any migratory bird.

Mitigative Measures: None

Name of specialist and date: Desa Ausmus 12/09/04

NATIVE AMERICAN RELIGIOUS CONCERNS

A letter was sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council, and the Colorado Commission of Indian Affairs on January 21, 1999. The letter listed the projects that the BLM would notify them on and projects that would not require notification. No comments were received (Letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Henry S. Keesling 17 November 2004

PRIME & UNIQUE FARMLANDS

Affected Environment: Not Present

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Ole Olsen 1/28/05

T&E SPECIES - SENSITIVE PLANTS

Affected Environment: There are no BLM sensitive plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 11/23/04

T&E SPECIES – ANIMALS

Affected Environment: There are no Federally ESA listed animal species that would be adversely affected by the Proposed Action, or the No Action alternative. The surface of the project area provides habitat for two BLM sensitive species, the Columbian sharp-tailed grouse and the Greater sage grouse.

Environmental Consequences: Since the Proposed Action involves underground coal mining, it would not have any direct impacts to grouse species or their habitat. Subsidence could result in alterations of drainage patterns resulting in localized changes within the plant community, but this would not be expected to have significant impacts to wildlife species or their habitat.

Mitigative Measures: None

Name of specialist and date: Desa Ausmus 12/09/04

T&E SPECIES – PLANTS

Affected Environment: There are no federally listed threatened or endangered plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 11/23/04

WASTES, HAZARDOUS OR SOLID

Affected Environment: If the release does occur, the environment affected would be dependent on the nature and volume of material released. If there are no releases, there will be no affect on the environment.

Environmental Consequences: Consequences will be dependent on the volume and nature of the material released. In most every situation involving hazardous materials, there are ways to remediate the area that has been contaminated. Short-term consequences will occur, but they can be remedied, and long-term impacts will be minimal.

Mitigative Measures: None

Name of specialist and date: D. Johnson 22 November 2004

GROUNDWATER HYDROLOGY/QUALITY

Affected Environment: The surface formation is the Cretaceous Lewis Shale. Groundwater will be impacted by the mining of the 200 acres of coal.

Environmental Consequences: Goundwater has been addressed in the existing environmental documents for the existing mining operations. With proper mining practices and by following the mitigation address in the approved mine plan and environmental documents, there should be no significant environmental consequences to groundwater.

Mitigative Measures: None

Name of specialist and date: Fred Conrath 11/23/04

WATER QUALITY - SURFACE

Affected Environment: The ground surface and soils are derived from the Lewis Shale which is marine shale having a high salt content. Runoff waters from this area would have relatively higher TDS (Total Dissolved Solids) levels, from draining this surface. In addition surface coal mining upstream has occurred and water percolating through unconsolidated backfilled materials is generally thought to increase the TDS constituent in the local streams. Runoff from the area affected by the proposed action will flow to Fish Creek, which is a perennial tributary to Trout Creek. The water quality of Fish Creek must support the following beneficial uses: Aquatic Life Cold 1, Recreation 1a and Agriculture.

Longwall mining in the vicinity (Eastern and Northern Mining Districts) has occurred since about 1996 and runoff water from the subsided areas, as well as, mine inflow water derived from the mined coal aquifer has been released into Foidel Creek and Fish Creek. The mine inflow water has TDS levels comparable to Foidel Creek upstream of the underground mine, however subsequent handling and holding of this water tends to increase the TDS levels. Twentymile Coal makes use of some of this water in the conduct of various mining activities, especially dust suppression.

Colorado Department of Public Health and Environment, Water Quality Control Division has issued Pollutant Discharge Elimination System Permits (NPDES) for various discharge points, including Fish and Foidel Creeks. Current levels of Total Dissolved Solids in these creeks are monitored upstream of the mine activities and discharge is regulated. Discharged water is also treated with sodium hydroxide (NaOH) to maintain the pH of the water between 8.8 and 9 to precipitate iron and lower the TDS. When the creeks are surging with spring runoff water more of the mine inflow water is released to the streams and the dilution effect reduces the concentration of TDS, iron and sodium to acceptable levels to meet classified uses downstream. Conversely, when low or no flows occur, the amount of water discharged is reduced accordingly.

Environmental Consequences: Subsidence of the ground surface likely will cause localized gradient changes on soil surfaces and within stream channels. Additional sediments could be generated in the short term from overland flow across soil surfaces and scouring of stream channels. However, localized deposition is expected to occur in both the upland and stream environments, except during high runoff events. Higher levels of TDS and Total Suspended Solids could result from sediment transport or water flowing across the Lewis Shale derived soils. No sediment dams are present downstream of the area to be subsided.

Mitigative Measures: Same as for Surface Hydrology

Name of specialist and date: Ole Olsen 2/11/05

WETLANDS/RIPARIAN ZONES

Affected Environment: It is not known if the stream segments overlying the proposed long wall mine extension have any riparian resources. It is not known if any isolated springs and seeps are present within the affected environment. The ground surface and soils are derived from the Lewis Shale, which would provide fine sediments.

Environmental Consequences: Ongoing subsidence evaluations conducted by Twentymile Coal Company involving Alluvial Valley Floors associated with Fish, Foidel and Middle Creeks, as well as perennial stream flow and other shallow bedrock aquifers suggests that ground water levels may be minimally altered. On the larger perennial streams the effects of subsidence cause a pooling of water in the zone of subsidence and more streamside riparian habitat is created. One assumption stated in a recent subsidence evaluation conducted by SubTerra, Inc (PR6 AVF Subsidence Evaluation) is that “Fish Creek elevation will rise, relative to the surrounding ground, a distance equal to predicted ground subsidence at that point.”

If this assumption holds true and could be applied to areas having a deeper water table or other water pathways that may support springs and seeps then it could be surmised that no effect or beneficial effects to riparian resources could be expected.

Mitigative Measures: None

Name of specialist and date: Ole Olsen 1/31/05

WILDERNESS, WSA, AND WILD & SCENIC RIVERS

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable

Name of specialist and date: Jim McBrayer – 11/22/04

NON-CRITICAL ELEMENTS

SURFACE HYDROLOGY

Affected Environment: Short segments of two ephemeral stream channels overlie the proposed longwall mine operation. The first stream segment is parallel with and begins within longwall panel 26 right; it has an average gradient of 3 % as determined from a 7.5 minute quadrangle. A second stream channel has a gradient of 6 to 8 % as it flows perpendicular across panel 26 right and reduces to a gradient less than 5% downstream from the affected 200 acre tract.

Environmental Consequences: Some localized erosion and deposition is expected to result from overland flow and stream flow, on the ground surface and within stream channels, respectively. Regarding the first stream channel, the subsidence of the channel would occur in the headwater segment, resulting in an area favoring deposition. Downstream segments of this drainage are not proposed for undermining.

The second stream channel crosses an area of subsidence (panel 26 right) in a perpendicular course. Maximum subsidence will occur in the middle of panel 26 right and the stream gradient upstream of the subsided channel will increase. Conversely the stream gradient will decrease downstream from the point of maximum subsidence, until it enters the area associated with panel 25 right which will be undermined. In between panels 26 and 25 the coal is partially mined and some support prevents immediate subsidence. The ground surface overlying these supported areas will not subside or will not subside to the extent that occurred in the middle of the longwall panels. Therefore some amount of streambed scour will occur in this area, possibly incising the stream for short distances.

Twentymile Coal Co. offered to place these ephemeral stream segments under the same monitoring protocol that has been established for Foidel and Middle Creek. This protocol is stated in the mitigative measures.

Mitigative Measures: If headcutting is greater than three feet (depth) or if incising of two feet or greater occurs more than 400 feet from the point of origin of the headcut, then channel morphology should be evaluated. Channel mitigation measures should be initiated, if warranted, after the evaluation. A visual examination, possibly combined with analytical results, should be considered as an appropriate method for determining "damage". The character of the stream, flow, sediment load, and sediment characteristics will all influence the advent or extent of damage that may require repair.

Name of specialist and date: Ole Olsen 2/11/05

SOILS

Affected Environment: Soils are derived from Lewis Shale. Clay and clay loam soil textures would be expected. Moderate to high runoff and moderate to high water erosion hazard would also be associated with these soils.

Environmental Consequences: The soil resource overlying the zone of subsidence is expected to remain intact with regards to important characteristics and properties. Some fracturing or loosening of the soil profile may occur in areas where the surface is flexed from the irregular pattern of subsidence and to a lesser degree some compression may result in and near the areas of maximum subsidence. These modifications to the soil profile could result in increased percolation of water in areas that were flexed and reduced percolation in areas which were compressed.

These slight modifications to the soil profile are not expected to cause appreciable changes to the characteristics or properties of the soils, especially with regards to fertility or available soil moisture.

Mitigative Measures: None

Name of specialist and date: Ole Olsen 2/11/05

VEGETATION

Affected Environment: The Proposed Action is located below a mountain shrub and sagebrush-grass plant community on private surface.

Environmental Consequences: Since the Proposed Action involves underground coal mining, it is not expected that there would be any direct impacts to the plant community at the surface. Subsidence could result in alterations of drainage patterns resulting in localized changes within the plant community, but this would not be expected to pose a risk of adverse impacts within the plant community.

Mitigative Measures: None

Name of specialist and date: Hunter Seim 11/23/04

WILDLIFE, AQUATIC

Affected Environment: Short segments of two ephemeral stream channels overlie the project area. Riparian vegetation associated with these streams would provide habitat for aquatic wildlife species.

Environmental Consequences: Since the Proposed Action involves underground coal mining, it should not have any direct impacts to aquatic wildlife species or their habitat. Subsidence could result in alterations of drainage patterns resulting in localized changes within the plant community, but this would not be expected to have significant impacts to wildlife habitat.

Mitigative Measures: None

Name of specialist and date: Desa Ausmus 2/16/05

WILDLIFE, TERRESTRIAL

Affected Environment: The surface of the project area provides habitat for big game species as well as small mammals and birds. The area provides wintering habitat for elk during severe winters.

Environmental Consequences: Since the Proposed Action involves underground coal mining, it would not have any direct impacts to terrestrial wildlife species or their habitat. Subsidence could result in alterations of drainage patterns resulting in localized changes within the plant community, but this would not be expected to have significant impacts to wildlife habitat.

Mitigative Measures: None

Name of specialist and date: Desa Ausmus 12/09/04

OTHER NON-CRITICAL ELEMENTS: For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access		RS 12/13/04	
Fluid Minerals		FC 11/23/04	
Forest Management		ME 11/29/04	
Hydrology/Ground			FC 11/23/04
Hydrology/Surface			OO 1/28/05
Paleontology		RE 11/22/04	
Range Management		JHS 11/23/04	
Realty Authorizations	PB		
Recreation/Travel Mgmt		RS 11/22/04	
Socio-Economics		PB 11/23/04	
Solid Minerals		RE 11/22/04	
Visual Resources	JM		
Wild Horse & Burro Mgmt	VD		

CUMULATIVE IMPACTS SUMMARY:

STANDARDS

PLANT AND ANIMAL COMMUNITY (animal) STANDARD:
Due to the Proposed Action being carried out underground, it is not expected that there would be any adverse impacts to wildlife species or their habitat. The Proposed Action would meet this standard.

Name of specialist and date: Desa Ausmus 12/09/04

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD:
There are no threatened or endangered animal species or habitat present in the project area. The surface of the project area provides habitat for two BLM sensitive species, the Columbian sharp-tailed grouse and the Greater sage grouse. Due to the Proposed Action being carried out underground, it is not expected that there would be any adverse impacts to these species or their habitat. The Proposed Action would meet this standard.

Name of specialist and date: Desa Ausmus 12/09/04

PLANT AND ANIMAL COMMUNITY (plant) STANDARD:
Due to the Proposed Action being carried out underground, it is not expected that there would be any adverse impacts to the plant community at the surface. The Proposed Action would meet this standard.

Name of specialist and date: Hunter Seim 11/23/04

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant) STANDARD:
There are no BLM sensitive or federally listed threatened or endangered plant species within or in the vicinity of the Proposed Action. This standard does not apply.

Name of specialist and date: Hunter Seim 11/23/04

RIPARIAN SYSTEMS STANDARD:
The riparian standard for healthy public lands will not be affected by the proposed action which occurs on private surface.

Name of specialist and date: Ole Olsen 1/28/05

WATER QUALITY STANDARD:
The water quality standard for healthy public lands will not be affected by the proposed action which occurs on private surface.

Name of specialist and date: Ole Olsen 1/28/05

UPLAND SOILS STANDARD:
The upland soil standard for healthy public lands will not be affected by the proposed action which occurs on private surface.

Name of specialist and date: Ole Olsen 1/28/05

PERSONS/AGENCIES CONSULTED: Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

FONSI

The environmental assessment, analyzing the environmental effects of the proposed action, has been reviewed. With the implementation of the attached mitigation measures there is a finding of no significant impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

1. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.

2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.

3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas or designated Areas of Critical Environmental Concern.

4. There are no highly controversial effects on the environment.

5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.

6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State or local natural resource related plans, policies or programs.

7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.

8. Based on previous and ongoing cultural surveys, and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.

9. No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.

10. This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

DECISION AND RATIONALE: : It is my decision given that there is a finding of no significant impact regarding the proposed action presented herein, to permit the federal coal lease **COC 67514** request to proceed as proposed.

MITIGATION MEASURES:
A. Project specific stipulations apply to 5RT 1368 and 5RT1369. These two cultural resources will be avoided by the proposed projects. Avoidance recommendation in the report will be followed to protect these two sites. If this cannot be done then the resources will be tested for eligibility and if necessary further mitigation developed.

The following standard stipulations apply for this project:

The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

B. If headcutting greater than three feet (depth) or if incising of two feet or greater occurs more than 400 feet from the point of origin of the headcut, then a channel morphology evaluation study will be conducted. Channel mitigation measures should be initiated, if warranted, after the evaluation. A visual examination, possibly combined with analytical results, should be considered as an appropriate method for determining "damage". The character of the stream, flow, sediment load, and sediment characteristics will all influence the advent or extent of damage that may require repair.

COMPLIANCE PLAN(S): Periodic compliance inspections will be performed over the life of this project to insure that all mitigation measures are being implemented as required.

SIGNATURE OF PREPARER: ***/s/ Robert Ernst***

DATE SIGNED: ***16 February 2005***

SIGNATURE OF ENVIRONMENTAL REVIEWER: ***/s/ Duane Johnson***

DATE SIGNED: ***2/24/05***

SIGNATURE OF AUTHORIZED OFFICIAL: ***/s/ Jerome D. Strahan***

DATE SIGNED: ***2/25/05***

ATTACHMENTS: None